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AREAL AND TEMPORAL ASPECTS OF ABORIGINAL SOUTH AMERICAN CULTURE

JOHN M. COOPER

The Catholic University of America

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INTRODUCTION

THE purpose of the present paper is to give a bird's-eye-view of aboriginal cultural distribution and sequence in South America. The West Indies and southern Middle America from the Isthmus to about central Honduras are included, since they have a cultural link more to South America than to North America.¹ The paper has been written, not for seasoned specialists in South American anthropology, but for non-specialists, to set up an areal and temporal framework into which the enormously complex factual data can be provisionally fitted and to offer a first-aid guide to the anthropological literature of the continent. No attempt has been made, of course, to include an adequate list of the innumerable first-hand sources. Good bibliographies of these may be found in Nordenskiöld, especially 1920, Krickeberg, 1922, W. Schmidt, 1913, Izikowitz, 1935, Gillin, 1940.

For a better understanding of cultural distribution and sequence in South America, a few of the more pertinent data upon physical environment and racial and linguistic divisions are premised.

PHYSICAL ENVIRONMENT ²

Geographically Pan-America may be looked upon as a quasi-peninsula jutting out from the extreme northeast tip of the Afro-Eurasiatic land mass which we assume to be the birthplace of the human race. Thus of the larger areas of the world, South America is farthest removed from man's primal home, the most isolated, and probably the latest to be inhabited.

South America may, for our present purpose, be divided into three major regions: (1) the mountainous western fringe, with its flanking coastal plains, and, east thereof, (2) the forested lowlands of the north, northeast and center of the continent, and (3) the more or less open country of the east and south. With

¹ Thomas and Swanton, 1911, 96; Mason, 1938, 311-14; Lothrop, 1940; Kidder II, 1940. Cf. Lothrop, 1939.

² Geographical data in this section of paper largely based on: Jones, 1930; Denis, 1927; Zon and Sparhawk, 1923; Whitbeck, Williams and Christians, 1940.

these three areas coincides fairly well the distribution of the three major cultural groupings of the continent,—a correlation to which we shall return later.

1. *The Andean Region.* The Andean Cordillera lifts its peaks, ranges and plateaus, paralleling the coast, from Panama to its dip beneath the ocean at Cape Horn. Toward the Pacific it is flanked over most of its extent by a narrow strip of lowland: tropical rain forest down to about Payta (5° S. Lat.), in extreme northern Peru; the Peruvian-Chilean coastal desert thence about 1600 miles to near La Serena (30° S. Lat.), Chile; dry forest and temperate rain forest from La Serena to the Magellanic archipelago.

2. *The Forested Lowlands.* The forested lowlands of the Orinoco and Amazon watersheds, lying east of the northern half of the Cordillera, form a vast roughly quadrangular area. The northwestern and southwestern sides of this quadrangle are formed by the Andes; the northeastern, by the Atlantic coast line from central Venezuela to about 400 miles beyond the mouth of the Amazon; the southeastern, by a broken line running from this last point across country to central Bolivia. The sides of this great quadrangle are about 1300 to 1500 miles long. Most of the area is covered with dense tropical rain forest, except for the extensive savannas of the middle Orinoco and of the Guiana highlands.

3. *The Open-Country Belt.* The third division of South America, representing about one half of the continental area, is the region bounded on the west by the southern Andes, on the northwest by the Amazonian rain forest, and on the northeast and southeast by the Atlantic. It is mostly open country, treeless or only sparsely wooded,—grasslands, savannas, bushlands, and steppes,—including the Eastern Brazilian and Matto Grosso highlands, the Gran Chaco, the Uruguayan plains, the Argentinian Pampa, the Patagonian plateau and part of Tierra del Fuego. On the Atlantic border of the Brazilian highlands, the tropical rain forest extends in a narrow coastal strip down to about 25° S. Lat. The chief break in this great open-country belt

is that made by the subtropical forests of southern Brazil and of the Paraguay and Paraná basins. The inland and upland savannas of the Brazilian and Matto Grosso highlands are thus practically ringed with heavily forested country, mostly lowlands. To the far southwest of the open belt lies the Chonoan and Magellanic archipelago, flanking the mainland for about 1200 miles from Chiloé to Cape Horn and covered mostly with temperate rain forests.

SOMATOLOGY

Our data on the living races of man on the Southern American continent are very incomplete. Only in four or five scattered spots do they approach anything like adequacy, while for enormous areas, such as most of the Amazonian forested area, they are lacking almost entirely. No thorough analysis and interpretation even of the sparse data we have has been attempted. Dixon dealt with only certain selected elements. Biasutti's review is wanting in detail. Our most recent study, Eickstedt's, is at best provisional; however, such as it is, it represents at least a start.³

Eickstedt isolates four main physical types, two tending towards brachycephaly, two towards dolichocephaly,—although one of these latter two, his Brazilid type, falls in the main within mesocephaly. Eickstedt blocks out the following distributions: the Andid sub-race, broad-headed and of relatively low stature, occupying most of the Andean area down to Chiloé; the Pampid sub-race, brachycephalous and of relatively tall stature, of the Matto Grasso plateau, the Chaco, the Uruguayan plains, most of the Pampa region, and Patagonia; the Brazilid sub-race, of medium to short stature and heavy torso, tending toward dolichocephaly [mesocephaly], of the Amazonian and Orinoco watersheds, most of the coastal forest belt flanking the Brazilian highlands, and the Buenos Aires region; the Lagid sub-race, more markedly dolichocephalous, of medium to low stature and of

³ Dixon, 1923, 443-72; Biasutti, 1912, 140-43, maps 1-7; Eickstedt, 1934, 720-59, 838-76, map opp. p. 752; Pericot, 1936, 593-727, *passim*, good for bibliography; Krickeberg, 1922, 217-19. For references to other classifications and distributions, see: Gusinde, 1939, 406-18; Imbelloni, 1937.

lighter torso, occupying the Brazilian highlands, and the Chonoan and Magellanic archipelago.

In general it can be said that the Andean region is more dominantly brachycephalic, while in what we are calling the open-country belt there is much more of dolichocephaly. In rain forest areas, apart from the Colombian coastal region, there is more tendency towards mesocephaly. These broad generalizations are subject to local exceptions.

On the prehistoric South American racial types our data are likewise very sparse and inadequate, particularly for the tropical rain forest region. None of our prehistoric human remains is of demonstrated great age. Ameghino's claim to have discovered tertiary man has long since been successfully challenged and disproved. In the hill caves of Lagoa Santa in southern Brazil and in the sambaquis (shell heaps) of the southeastern Brazilian coast have been discovered skeletal remains of a race or races of seemingly considerable age. But there is no clear evidence of very great age. The seventeen Lagoa Santa skulls are fairly high and, with one exception, dolichocephalous; the coastal shell-heap or sambaqui type is likewise dolichocephalous but with rather low forehead. A number of older post-Pleistocene remains have been found in the Pampas; some others here and there in the Andean region, such as the Punin skull of Riobamba, Ecuador. These earlier skulls from the Pampa and Andean region, like the Lagoa Santa and sambaqui skulls, are consistently long-headed and many of them show other seemingly significant similarities with some of the living peoples, such as the Botocudo and Fuegians, whom Eickstedt includes in his Lagid race.⁴

From such evidence as we have, sparse and incomplete though it be, we seem to be on fairly safe ground in concluding that earlier man in South America was long-headed,⁵ that the broad-heads represent a later stratum, and that many of the modern Lagids are survivors of this earlier type and have preserved to greater or lesser degree its characteristics. The modern Lagids,

⁴ Hrdlička, 1912; Eickstedt, 1934, 748-59; Sullivan and Hellman, 1925, Punin calvarium; Walter, Cathoud and Mattos, 1937, Confins man.

⁵ As in North America: Stewart, 1940.

or at least many of them, would thus seem to represent the more primitive type of South American man. Whether the brachycephalic type or types developed out of the earlier dolichocephalic type or types, or represent a later migration into South America across the Panama bridge or the Antilles, is an open question. All that we can say with any confidence is that the broadheads appear in the main to be more recent.

LINGUISTIC STOCKS

As our evidence stands today, there are more linguistic stocks, by probably a good fifty per cent, in South America than in North and Middle America combined. Our most important recent review, Rivet's, lists 77 such South American linguistic stocks. In view of our scant evidence for many areas and peoples and of our lack of a thorough analysis of the evidence we have, this number is provisional only. In all probability it will be appreciably increased or decreased as our information itself and the analysis thereof become fuller. Particularly defective is our information for the Brazilian highland region, although Nimuendajú and one or two others are helping to clear up the situation.⁶

Of these 77 stocks, about ten are spoken over a good four-fifths of the continental area. In the Andean region, passing from north to south, Chibcha, Quechua, Aymara and Araucanian, cover nearly the whole area. Over a good two-thirds or more of the Orinoco-Amazonian forest belt and in the West Indies are spoken Arawak, Carib, Tupi, Tucano and Pano, or were in post-Columbian times spoken.

In the open-country belt, about four-fifths or more of the area is or was inhabited by people of Gê, Guaycurú, Charrua, Puelche and Tshon stocks.

Most of the remaining 63 stocks are scattered over the rest of the continent, not checkerboard fashion, or at random, but in the

⁶ Rivet, 1924, 639-707; Nimuendajú and Lowie, 1937, 565-66. For linguistic (and tribal) maps of South America, see: Rivet, 1924; W. Schmidt, 1926, Atlas, largely utilizing Rivet; Krickeberg, 1922; Pericot, 1936, largely based on previous maps, bibliography; Krieger, 1935, adapted from Krickeberg and Roth. For linguistic maps of Middle America, see: Mason, and Johnson, 1940; Thomas and Swanton, 1911.

main distributed in a great broken crescent extending in the west along the base of the Andes and to the south along the southern borders of the Amazonian forest and of the Brazilian highlands to the Atlantic coast. This marginal distribution may be explained in either one of two ways. The peoples speaking these stocks may have been driven to marginal areas by the more numerous and more powerful peoples of Arawak, Carib, Tupi and other stocks. Or else we may assume that before the deployment of these latter through the Orinoco-Amazonian belt, this area was occupied by a very great number of peoples of distinct linguistic stocks, and that, as the Arawak, Carib, Tupi and others spread out over the area, these earlier residents took over the languages of the invading swarms, thus leaving the earlier atomistic distribution of stocks on the uninvaded margins of the area. We have many instances, historically and ethnologically verified, of such change of language as a result of Tupi, Carib and Arawak invasion or contact.

At any rate the distribution of stocks in South America is in itself evidence of very wide migrations and drifts, many of them established historically,—migrations and drifts facilitated by the lack of great natural barriers over the vast lowland areas of the continent, and stimulated to a considerable extent, within the horticultural belt by the prevalent milpa agriculture,⁷ and for the Tupi, by the ancient and deepseated tradition of a distant Utopia beckoning them on.⁸

CULTURE

A. AREAL DISTRIBUTION

For purposes of description and interpretation, the aboriginal cultures of South America may be classified regionally into three large divisions, the areas occupied by these divisions corresponding roughly to the Andean uplands, the forested Orinoco-Amazon lowlands, and what we have called the open-country belt. For convenience we are calling these three cultural groupings, the Sierral, the Silval and the Marginal respectively. The Marginal

⁷ M. Schmidt, 1917; cf. Cook, 1921.

⁸ Métraux, 1928, 201-24.

is so denominated in view of the fact that technologically it is simpler than either of the other two and that regionally it borders on ⁹ and is marginal to the Sierral and Silval areas.¹⁰

1. *Marginal Culture.* In this grouping we include the Gê-speaking peoples and the Botocudo (Borun), Mašakali, Patašo, Puri, Waitaka, and others of eastern Brazil, together with the Bororó, Guató, and Guayakí, as well as the peoples of the Chaco, of the Uruguayan plains, of the Argentine Pampa and of Patagonia, and the Ona, Yahgan, Alacaluf, Chono and Chango,—who in the main may be looked upon as externally marginal to the Sierral and Silval areas; and also certain peoples now or until recently of very simple culture such as the Yaruro, Makú, Schirianá, Waíka, Bahúna, Huhúteni, Katapolitani, Mura, and Sirionó, who are found widely scattered here and there in the Silval area as internally marginal groups (see Map 1). The externally marginal peoples occupy most of our open-country belt, except such sections of the forested land therein as are or were occupied by horticultural tribes, mostly Tupi.¹¹

⁹ We have no satisfactory comprehensive description of South American culture. Krickeberg, 1922, and Nordenskiöld, 1912 b, come nearest, but much new material has come out in these last two or three decades. Stout, 1938, has a good short summary. The Handbook of South American Indians, now being prepared by the Smithsonian Institution, under the able direction of Dr. Julian H. Steward, with the cooperation of a group of specialists, will be published about 1944 or 1945. For West Indies see: Fewkes, 1907; Lovén, 1935. For Panama region: Lothrop, 1937.

¹⁰ Wissler, 1917, used a five-fold division. Krickeberg, 1922, adopted a two-fold one: Naturvölker, with six subdivisions, and Kulturvölker, with four subdivisions. Stout, 1938, has worked out a nine-fold division, his nos. 4-6 corresponding roughly to our Sierral, no. 7 to our Silval, the remaining five to our Marginal.

¹¹ For the convenience of readers who may desire to follow through or check up on the content of the culture of these marginal peoples, the more important firsthand and second-hand sources, many of them containing bibliographies, are here listed. Gê and other eastern Brazilian marginals: Ploetz and Métraux, 1929; Métraux, 1929; Snethlage, 1930; Nimuendajú, 1938, 1939; Nimuendajú and Lowie, 1937, 1939; Lowie, 1940 b, 423-39, 1941. Bororó: Colbacchini, [1924]; Lévi-Strauss, 1936; von den Steinen, 1894. Guató: M. Schmidt, 1905, 1914. Guayakí: Vellard, 1934. Chaco: no satisfactory survey available that embodies the newer data from the many scat-



MAP 1. Distribution in historic times of South American Sierral, Silval and Marginal culture, and southern limit of agriculture. Apart from the areas inhabited by the marginal peoples designated on the map, nearly all of the territory east of the eastern limit of Sierral culture and north of the southern limit of horticulture has in historical times shared the Silval culture.

Between these many marginal peoples one finds very numerous and profound regional and tribal divergences of culture.¹² But underlying these divergences there exists very considerable uniformity of culture both in what is present and in what is absent.

We may sum up this basic uniformity about as follows: food-getting by hunting, fishing and gathering, with horticulture either absent or only rudimentary or less developed among most groups; no domestic animals except the dog, and even the dog absent here and there; more commonly no stimulants (alcoholic beverages, tobacco, coca), or else demonstrably or probably of relatively recent or even post-Columbian introduction; pottery very often absent or, where present, of relatively crude type; clothing and adornment usually either very meager or very simple; weaving absent or at best rudimentary; shelter of the simplest, such as the lean-to, beehive hut, and so forth; mats or skins on ground for sleeping; use of stone, bone, or wood for weapons and utensils, with practically complete absence of metals; unusually long bows and arrows among many of the internally marginal and northern externally marginal peoples; fire-making by drill over most of the area, but by the percussion method in the Magellanic archipelago and among the Guayaki and some Tehuelche; cannibalism absent or practically so; well

tered sources; a thorough one by Métraux about completed but not yet published; good short older survey in Krickeberg, 1922, 293-305; cf. also Nordenskiöld, 1919, 1920; bibliography in Pericot, 1936. Uruguay and Paraná delta: Lothrop, 1932; Rivet, 1930. Argentine Pampa and Patagonia: Outes and Bruch, 1910; Palavecino, 1934. Ona, Yahgan, Alacaluf (Chono): Gusinde, 1931, 1937; Lothrop, 1928; Cooper, 1917. Chango: Latcham, 1910. Yaururo: Petruccio, 1939. Schirianá, Waika, Makú, Bahúna, Huhúteni, Katapolitani: Koch-Grünberg, 1906 a, 1906 b, 1922, 1923, 248-319; the Bahúna, Dr. Irving Goldman informs me from his field studies in the area, are a sib rather than a tribe; there is some question, too, as to the correctness of Koch-Grünberg's assumption that the Schirianá and others had only recently adopted horticulture. Mura, Sirionó: extremely meager data available; for Mura, cf. Tastevin, 1923; Bates, 166-70; for sources on Sirionó, see Pericot, 1936; Gillin, 1940, 648. Four subdivisions of the South American marginals are suggested in Cooper, 1941.

¹² As among marginals elsewhere,—as Lowie, 1940 a, 417-18, has recently emphasized.

organized family system with prevalent monogamy or simple polygyny, and here and there rather strict monogamy; the typical political unit a small band, usually made up of relatives, with bands occasionally forming loosely cohesive tribes with or without chieftaincy of limited power; moieties and moiety-like tribal divisions as a rule absent, but reported among the Yaruro, Bororó and some of the Gê peoples, the moiety organization among the latter being of marked complexity; levirate, sororate and avoidances of fairly wide distribution; among a number of the tribes, especially the Yaruro and Ona, land tenure systems resembling closely the northeastern North American family hunting ground system; shamanism, but absence of priesthood; religion in general seemingly a little more animistic than manistic, with well defined theism among at least a good many groups, and recorded in detail among the Fuegians, the Apinayé and the Yaruro.

2. *Silval Culture*.¹³ The area of the Silval culture includes not only the broad Amazonian-Orinoco forested region with its adjacent and enclosed savannas, but also the Guianas, the West Indies, most of Middle-America from Honduras to the Isthmus, the rain forest belt of the Colombian and eastern Brazilian coast, the temperate rain forests of southern Brazil and the Paraná-Paraguay region, and the forested Andean foothills bordering the northern Chaco.

As in the Marginal culture, so in the Silval culture there are innumerable and important local differences, but underlying these there is a quite perceptible uniformity. These more uniform characteristics of this far-flung Silval culture may be summed up about as follows: horticulture universal, with use of dibble rather than hoe, and carried on under the slash-and-burn, shifting-cropping or milpa system; manioc, sweet or bitter, a or the basic staple over most of the area, with however, a good deal of maize, beans, sweet potatoes, and so forth; the dog, at present, practically but not quite universal; widespread use of poison in fishing, and, towards the northwest particularly, of the blowgun with

¹³ Our best review of culture of area is Krickeberg, 1922. For distributions of material culture elements, see Nordenskiöld, 1919, 1920, 1924, 1931. For social organization, see: Kirchhoff, 1931, Haeckel, 1938. For sources, see: Gillin, 1940; Pericot, 1936.

curare-poisoned darts in hunting; tobacco and alcoholic beverages throughout the area, the latter made with mastication (except of course for wines and mead) and indulged in to intoxication at festival drinking-sprees; cannibalism widespread, particularly but not exclusively among Tupi- and Carib-speaking peoples; well made but simple pottery, here and there reported archaeologically and ethnologically of unusually good type as at Santarem and around the mouth of the Amazon; notable meagerness or absence of clothing, with however rather elaborate body adornment, particularly featherwork; lip-plug of fairly wide distribution; fairly well developed weaving; shelter of timber framework demanding fairly advanced carpentry and commonly of dimensions large enough to house a considerable number of people, with inside ground areas reported up to about 10,000 sq. ft. or more; hammocks; weapons and tools of stone, where it is available; some metal ornaments; major social unit in the tribe consisting more commonly, where data are reported, of the extended family or sib living in the large houses above mentioned, with villages often comprising only one or two at most several such houses; villages at times confederated into a loose tribal organization; moiety and sib systems recorded here and there, some of the moiety systems bearing marked resemblance in certain details to those found among the Gê peoples; levirate, sororate, and avoidances not uncommon; couvade widespread; religion, so far as known, largely shamanistic and animistic, with at least a good deal of theism among many groups.

3. *Sierral Culture.* The Sierral culture extends from Colombia to the northern Araucanian area, and is shared by the peoples of the region we have previously described as the Andean area, except the tribes of the rain-forest coastal strip in the north who belong more to the Silval culture, and the Changos of the Chilean coastal desert and the Chono-Fuegian Canoe Indians whose culture is of the Marginal type. The Araucanians of middle Chile down to Chiloé are in the main on a markedly simpler culture level than the peoples farther north, but in many respects are linked genetically with the Sierral culture proper and so may best be included therein.

Again, as in the Marginal and Silval culture, marked local differences appear in the Sierral culture as one passes down the Andean highland from Colombia to the south, but there is likewise beneath the divergences an underlying cultural uniformity.

The more characteristic traits of the Sierral culture may be summed up as follows:¹⁴ horticulture universal, with maize as the chief staple and beans ranking next, except in the very high altitudes where white potatoes, oca and quinoa are basic; garden plots and fields tending to be of more permanent location than under the Silval milpa system, with irrigation in the drier lowlands and with terraces in the mountain valleys; the llama and alpaca domesticated and used for transportation, wool, food and sacrifices; coca-chewing as a stimulant, in addition to tobacco and alcoholic beverages; very high development of pottery and weaving; full body-clothing (in contrast to predominant Silval near-nudity); advanced metallurgy, in copper, platinum, gold, and (from Ecuador south) silver, but not in iron, with smelting, casting by direct and lost-wax methods, alloying of gold and copper (tumbac), of gold and silver, and of copper and tin (bronze), sintering of gold and platinum (Ecuador)¹⁵, plating, gilding, soldering, and welding; ordinary dwellings as a rule of very simple construction but advanced megalithic architecture in the central Andean region in the building of temples, fortifications and other public structures; roads, suspension and stone bridge; the quipu knot-record system, but no writing; wide use as weapons of slings, stone-headed and metal-headed clubs, spear and spearthrower, and bolas, with bow and arrow absent or of quite secondary importance (as contrasting with the Silval and most of the Marginal area where the bow and arrow and the unheaded club predominate); advanced political institutions with high organization and centralization, and particularly in the Inca civilization, militar-

¹⁴ Thompson, 1936, gives an excellent summary of Sierral cultures, for the general reader, with selected bibliographies. For fuller treatment, especially of Peru, with bibliography, see Means, 1931. For types of horticulture in Sierral and Silval cultures, see Sapper, 1934.

¹⁵ Bergsøe, 1937 (cf. reviews by J. A. Mason and D. Horton, in *Amer. Antiquity*, 1938, 4:84-87), 1938.

istic imperialism; tribute and taxes; organized standing army; earlier pre-Inca tenure of garden plots in severalty ¹⁶ supplanted later under Inca rule by limited communal control of land; elaborate market system; highly organized priesthood and ritualism, alongside of considerable shamanism; animal and, to a limited extent, human sacrifice; marked solar cult.

As is obvious from the foregoing summary descriptions, the Marginal, Silval and Sierral cultures represent in the main three fairly distinct levels of technological and economico-political achievement, the Marginal being the simplest, the Silval more developed, and the Sierral the most complex.

It has been our main purpose so far to block out only in broadest outline the nature and distribution of these three contrasting cultural types over the South American continent and the adjacent areas of the West Indies and Central America. To keep the picture from becoming too intricate, we have purposely closed our eyes to the numberless tribal and areal cultural diversities and have tried to see the continent as a cultural whole, even at the risk of appearing to oversimplify the well recognized unending complexities of South American aboriginal culture.

B. DIFFUSION AND TEMPORAL SEQUENCE

Our next task is that of interpretation,—here an attempt to determine spatial and temporal relationships. As initial steps toward working out a provisional reconstruction of cultural sequence on the continent we may first isolate and strip off certain cultural elements in modern aboriginal South American culture that are demonstrably post-Columbian, and secondly survey some of the more significant earlier diffusions that are clearly or reasonably inferable from the data at our command.

1. EUROPEAN AND NEGRO DIFFUSION: POST-COLUMBIAN

A very great number of important elements, widespread among and well integrated into contemporary aboriginal South American culture are, as is well known, due to introduction by Europeans since 1492. Such are, for instance: among domesticated plants,

¹⁶ Santa Cruz, 1940.

sugarcane, banana, watermelon; among domesticated animals, the horse, cattle, sheep, goats, pigs, chickens; firearms; weapons, utensils and tools of iron; perhaps the pellet-bow; and of course many social, economic, political, and religious concepts and practices. Some less widespread and less significant elements are traceable to post-Columbian Negro influence, such as the marimba, and specific types of African drum.¹⁷

2. ABORIGINAL DIFFUSION AND SEQUENCE: SINCE CIRCA 1000 A. D.

With the historical, ethnological, and archaeological data at our command today we are able to plot for a great many cultural elements, complexes, clusters and types the diffusion routes that can be chronologically classified as of post-Columbian times or else as of the centuries immediately preceding the Discovery, and consequently relatively recent. Some of these diffusions are demonstrable or practically so, others rest on reasonable probabilities. Such diffusions of course presuppose and are temporally posterior to the rise and establishment of the respective cultures involved. If we strip them off the cultural picture of modern aboriginal South America we can see a little more clearly the broader outlines of cultural distribution in South America several centuries before the Discovery,—say, about the year 1000 A. D., to select a more or less arbitrary date. Diffusion of cultural elements from the Marginal peoples to the Silval and Sierral have seemingly been minimum. Diffusion has occurred almost exclusively from and within the Sierral and Silval cultures. In each there have been certain marked major diffusions and others of minor significance. Let us begin with the Sierral.

a. *Diffusion Within and From Sierral Culture.* Two major Sierral diffusions may be distinguished, one definitely tied up with the rise and spread of the Inca Empire, the other of less determinable provenance. In the two or three centuries prior to the coming of the Spaniards the Inca Empire developed and spread

¹⁷ Post-Columbian white influence: Nordenskiöld, 1919, 232-34, 1920, 119-26, 197-202, 1930, ch. 7. Post-Columbian Negro influence: Nordenskiöld, 1930, ch. 7; Izikowitz, 415. Pellet-bow: Nordenskiöld, 1919, 48-51, evidence for post-Columbian origin; Friederici, 1920, 186, for pre-Columbian origin.

from around Cuzco to the north along the Andes as far as northern Ecuador and to the south as far as the Rio Maule in central Chile and along the eastern slope of the Andes to the Diaguita territory carrying with it a great number of elements which we have previously listed as typical of the Sierral culture (see Map 2).¹⁸

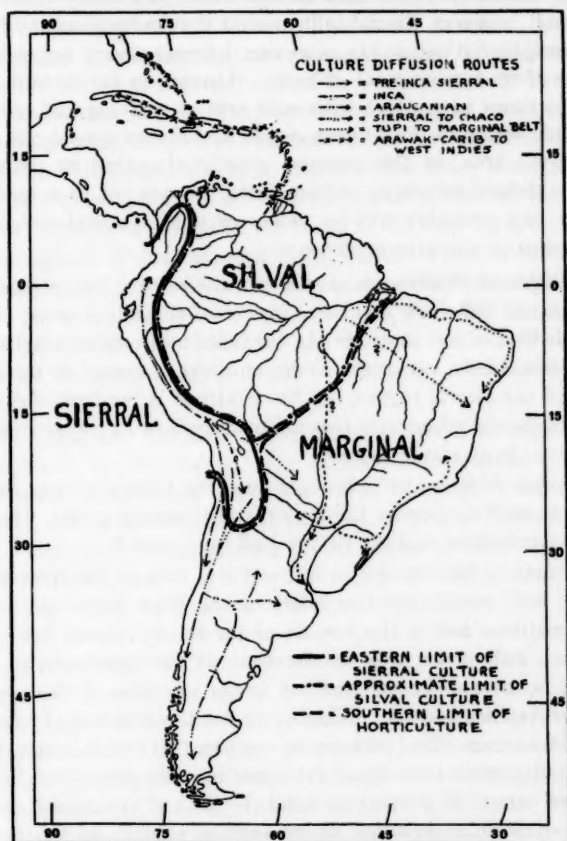
Partly in pre-Columbian times (Inca and presumably pre-Inca), partly in post-Columbian times, many of the typical Sierral elements drifted south into Araucanian territory. Such elements include, together with others of less importance, irrigation and possibly quinoa and the white potato, the domestication of the llama, wool-weaving, certain pottery types, metal work in gold, silver and copper, the quipu, and perhaps solar worship. In post-Columbian times prior to the middle of the seventeenth century the Araucanians deployed far out over the Pampas towards the Atlantic coast carrying with them their culture, many elements of which through contact diffused well north and south of the central Pampas. Some time between the dates 1670 and 1741 this Araucanian influence profoundly modified the culture of the Tehuelche to the south of the Pampas proper as far as the southern limit of the Tehuelche territory at the Strait of Magellan. The culture of the Tehuelche as recorded in our twenty sources from 1520 to 1670 differed markedly from it as recorded consistently from 1741 on, and the majority of the new elements are obviously of Araucanian origin.¹⁹

Through trade and other contacts a good deal of Sierral culture has filtered down from the highlands into the adjacent wooded lower eastern slopes of the Andes. But in general only minor Sierral influences, some of them at least recent post-Columbian, are discernible in the Silval and Marginal regions. Such in the Silval region are probably elements such as coca chewing, the feather fire-fan, and the pan-pipe.²⁰ Among the seemingly Sierral elements in Chaco culture are the feather fire-fan, games of

¹⁸ Means, 1931, Thompson, 1936. The Diaguita higher culture was, however, at base independent of and anterior to Inca influence and domination.

¹⁹ Cooper, 1924, 406-10.

²⁰ Nordenskiöld, 1920, 202-6, 1924, ch. 21, 1930, ch. 9.



MAP 2. Tentatively reconstructed distribution of South American Sierral, Silval and Marginal culture, as of circa 1000 A. D., and major cultural diffusions and drifts since then. Marginal enclaves within the Silval belt are not included in map. Araucanian territory is placed in the Marginal area, although horticulture may possibly have reached that far south by 1000 A. D.

chance, sandal and fillet, and certain textile and fictile patterns.²¹ All in all, however, Sierral influence on the Amazonian and Chacoan peoples did not, so far as we can determine, very appreciably change their fundamental culture. Whether in far distant prehistoric times agriculture with such arts as weaving and pottery had their origin in the Andean region and thence spread out over the Silval area, in this manner greatly changing an assumed earlier archaic collecting culture there, we are not in a position to say, nor probably will be unless or until the archaeologist's spade digs up decisive evidence.

b. *Diffusion Within and From Silval Culture.* Let us pass to the cultural diffusions stemming out from the Silval area. It is possible that in remote times the cultivation of manioc originated in the Silval belt east of the Andes and thence spread to the lowlands of the Sierral region, but the evidence is far from decisive. As regards one minor and two major diffusions of Silval culture, we are on more secure ground.

A minor drift or drifts brought into the Chaco certain Silval elements such as manioc horticulture, the manioc grater, wooden stools, hammocks, and the rubber ball for games.²²

The first of the two major diffusions is that of the Arawakan peoples into practically the whole of the West Indies probably some centuries before the coming of the Spaniard, and later the invasion, still under way at the time of the discovery, of the Caribs across the Lesser Antilles as far as some of the nearer Greater Antilles islands. Whether or not the presence of typical South American Silval culture in southern Middle America represents migration or cultural intrusion into the area from South America cannot at present be decided. At any rate, most of the region of Middle America where culture similar to the South American Silval culture is found is, like the latter's area of distribution, rain forest.

The original centers of dispersion of the Arawak and Carib peoples cannot in the present state of our evidence be determined.

²¹ Nordenskiöld, 1919, 235-51, 1920, 202-6, 1924, 225-26.

²² Nordenskiöld, 1919, 252-55, 1920, 208-13.

With only rare exceptions the areas over which they have spread are areas of tropical rain forest. They have, it is true, occupied the smaller lower-Amazon savannas and part of the Brazilian highland savanna, but not, except in part, the more extensive savannas of the middle Orinoco, where in historic times at least have dwelt peoples of other linguistic stocks, such as the Otomac, Guahibo, Sáliva, and the very primitive Yaruro. The Arawaks and the Caribs appear, in other words, to have shunned the open-country and to have kept in the main to the deep forests. Some of the spread of Arawak and Carib culture within the forested area is pretty clearly a matter of relatively recent generations,—as, e. g., in the case of the Schirianá and Waika, if we can rely on Koch-Grünberg.²³ Most of the Arawak and Carib spread must on the other hand go back to relatively remote prehistoric times.

The Tupi, like the Arawak and Carib, have also kept pretty consistently to the forests. The earliest determinable center of dispersion seems more probably, since Métraux' studies, and Klimek and Milke's statistical analysis, to be the Amazon basin. Then well prior to the coming of the European they appear to have drifted down to the Paraguay-Paraná and southern Brazilian region, the historic home of the Tupi-Guarani. At least it is mostly from these two centers on the Amazon and the Paraguay-Paraná that the Tupi spread out along the southern bank of the lower Amazon, and along the Brazilian coast with almost no break from the mouth of the Amazon to the extreme southern Brazilian coast.²⁴ Thus the Gê-speaking, Botocudo, and other marginal peoples of the Brazilian highlands became almost entirely ringed by the Tupi, who brought with them into the forested areas wherever they went their typical Silval culture. The regional distribution of the Tupi as mapped by Métraux coincides almost perfectly with the area of distribution of the trop-

²³ Koch-Grünberg, 1923, 284-319; cf. M. Schmidt, 1917.

²⁴ Métraux, 1927; Klimek and Milke, 1935, 87-88. Cf. Nordenskiöld, 1917, on Chiriguano migration across the northern Chaco to the forested foothills to the west thereof; more fully documented in Métraux, 1929 b.

ical and subtropical rain forests that all but surround the eastern Brazilian and Matto Grosso highlands.

Silval influence, in most cases mediated through the Tupi, has deeply penetrated into the Brazilian highlands and adjacent regions and has overlaid to differing depths the pre-existing Marginal culture, leaving only areas here and there untouched or relatively untouched. To such Silval influence can be with reasonable confidence ascribed such elements as horticulture, tobacco, intoxicants, the hammock, and so forth,²⁵ and possibly, although the question is still an open one, the basic pattern of the complex social organization revealed among the Bororó and by more recent studies among some at least of the Gê-speaking peoples such as the Apinayé, Canella, and Šerente.²⁶ Many of these element diffusions from Tupi sources can be well dated by historic documents as post-Columbian. Furthermore, from the scattered distribution of these Silval traits in the area, from their seemingly imperfect assimilation, and from the recency of much or most of the Tupi invasion of the area, Silval influence on the highland region appears to be in the main recent. All in all, then, we have good ground for concluding that the process of Silval diffusion into this Marginal region has been mostly a relatively late one, much of it known definitely to be post-Columbian and most of the rest probably dating back not many centuries prior to the coming of the European.

The numerous migrations of peoples and cultures which we have briefly summarized in the preceding five pages are of course by their very nature chronologically later phenomena in the respective regions. Many of them are post-Columbian, most or all of the remaining ones are,—some quite clearly, others very probably,—of dates later than the one selected above, somewhat arbitrarily, that of circa 1000 A. D. At or about that date, the distribution of the three cultures,—the Sierral, the Silval and the Marginal,—was much less broken and more regular than it was at the time of the Spanish conquest or than it has been in more

²⁵ Ploetz and Métraux, 1929.

²⁶ Haeckel, 1938,—a valuable assembling of the factual evidence but theory of ultimate Andean origin provisional only.

recent times (see Map 2). At that more remote date, the Sierral culture without the Inca overlay occupied about the area where it was found at the time of the Discovery; the Silval culture, approximately where it has been in recent times, in the Amazon-Orinoco watershed; the Marginal culture, the rest of the continent to the east, southeast, and south.

3. ABORIGINAL DIFFUSION AND SEQUENCE: BEFORE CIRCA 1000 A. D.

We have so far blocked out certain important temporal sequences that have occurred within the last millennium. How far can we get towards determining such sequences prior to our date of circa 1000 A. D.? It is recognized of course that any such historic reconstruction on a continental scale must rest on probabilities rather than on certainties. But at least it seems worth while to assemble and appraise such evidence as we have. We shall take up first the temporal relations of the Sierral to the Silval and Marginal, and after that the relations of the Silval to the Marginal.

a. *Sierral versus Silval and Marginal.* That the higher pre-Inca culture or cultures of the Sierral region developed at a date later than did the Silval culture appears to rest on fairly solid ethnological and archaeological evidence. Ethnologically these civilizations presuppose and are built upon well advanced horticulture. And we have no good ground for assuming that horticulture developed in the Silval area prior to or at least appreciably prior to its development in the Andean area. A plausible case can even be made for the Sierral region as the birthplace or earliest area of origin of agriculture on the continent, although the claim may be disputed by Middle America or perhaps by the Silval region.²⁷ While archaeologically the earlier Andean pre-Inca civilizations cannot, over most of the area, be shown to have been preceded by simple cultures of the Silval level, at two points at least in the area, Taltal and Arica, early and perhaps the earliest archaeological horizons seem to show an even simpler one comparable to that of the non-horticultural Marginal peoples.²⁸

²⁷ Cook, 1925; Mangelsdorf and Reeves, 1939; Sauer, 1939; Thompson, 1936, 13-14.

²⁸ Summary with sources, in Cooper, 1924, 413.

b. *Silval versus Marginal*. As regards the temporal relations of the Silval and Marginal cultures the evidence calls for a little more in the way of discussion. Theoretically the Marginal belt might conceivably represent a retrogressive breakdown and offshoot of the Silval culture. Actually, the evidence seems to be accumulating that the Marginal culture is in reality a far more ancient culture, earlier in point of time on the continent than the Silval. The evidence for this inference we shall now summarize and discuss,—first and chiefly the cultural evidence from ethnology and archaeology, then briefly the somatological and geographical evidence. Some of the cultural evidence is derived from a consideration of the data from South America alone; other, from consideration of pan-continental conditions, from North as well as South America.

(1) *Cultural Evidence*. (a) *South American*. That the Fuegian culture represents in the main such cultural traits from very early times seems reasonably clear. The evidence for this conclusion has been previously presented in detail by the present writer, a conclusion strengthened, it seems, by the archaeological investigations of Lothrop and Bird which indicate that the earliest inhabitants of the area had a culture seemingly even more simple than that of the modern Yahgan and Alacaluf, and of the Ona and their close cultural relatives, the Tehuelche of southern Patagonia. Furthermore the modern culture of the Yahgan and Alacaluf in particular corresponds in many seemingly significant respects with the extremely simple culture determined archaeologically on the earliest horizons at Taltal and Arica, well up the Chilean coast.²⁹

That the Gê, Botocudo (Borun), Puri, Waitaka and other Marginals of eastern Brazil represent a survived archaic pre-Silval culture in the region seems the most reasonable hypothesis to account for the evidence we have. The evidence for the southern and eastern Gê and for the Botocudo and others of eastern Brazil has been marshaled by Ploetz and Métraux; much of the evidence for the northern Gê, by Snethlage.³⁰ This conclu-

²⁹ Cooper, 1917, 223-26, 1924, 411-14; Lothrop, 1928, 110-15, 178-97, 198-212; Bird, 1938.

³⁰ Ploetz and Métraux, 1929, 227-34; Snethlage, 1930.

sion, to which we have previously adverted, is drawn partly from the marked primitivity of the culture as compared with the Silval, and partly from the historically proven and reasonably inferred later intrusions of the Tupi and of Tupi culture into the area.

We may also call attention in passing to the fact that, apart from the Carib Pimenteira and (Carib or independent stock) Kariri in the eastern part of the highlands, the Carib and Arawak tribes of the upper Xingú, the Arawak Guana and Tereno of the upper Paraguay,—all of these last four on the far western borderlands of the highlands,—and the Karayá of the Araguaya River, the Tupi are the only or almost the only people of horticultural or of typical Silval culture who border on and are intrusive into this whole great highland and savanna section of eastern Brazil.³¹ Lift Tupi peoples and Tupi influence from the area and there remains an almost unbroken vast region of non-horticultural Marginal culture in the East from the lower Amazon to the La Plata.

The Bororó likewise give every indication of being a fundamentally marginal culture overlaid only lightly by Silval elements. The Tupi-speaking Guayakí in the midst of Tupi peoples but with a culture sharply contrasting at almost every point with the Tupi, seem to be either remnants of prehorticultural Tupi or else a group later Tupi-ized as regards language but preserving a pre-Tupi culture. The Guató are somewhat problematical but both the archaeological and the ethnological evidence suggests cultural tarriance in their case rather than retrogression.

Upon the Chaco peoples have rained influences from east, north and west, many of these influences certainly of post-Columbian date. The reasonable assumption is that in times prior thereto and not very remote the Chaco peoples were closely akin in culture to the Charrua of the Uruguayan plains and to the Pehuelche-Querandi of the Argentine Pampa. Moreover a considerable number of widespread Chaco cultural elements, such as skin clothing, the hairbrush, the sinew bowstring, suggest rather strongly cultural kinship with the peoples of the Pampas and Patagonian plateau to the south.³² At any rate the peoples of the

³¹ Nimuendajú's 1937 unpublished map of the area is our best and most complete one. Cf. also maps previously listed, in footnote 6.

³² Nordenskiöld, 1919, 259-61; Lothrop, 1932, 188-89; Palavecino, 1934, 229.

Chaco, of the Uruguayan plains and of the Pampas have a relatively very simple culture as compared with the more elaborate Silval culture, and there is no evidence whatever to suggest that this simplicity has been the result of cultural retrogression.

It looks too as if the internally Marginal peoples scattered here and there in the Silval belt, or at least most of them, may well be cultural variants from pre-Silval times. The marked simplicity of their culture contrasting sharply with that of the Silval, the absence of evidence of retrogression, except perhaps with the Mura, the scattered type of distribution, and, in some cases, specific historic evidence, all suggest that these peoples are earlier occupants of regions near where they now are, who have been driven forward, conquered, scattered, penetrated, or surrounded, and in some cases profoundly influenced culturally and linguistically by later coming Silval Arawak, Carib, and Tupi, as well as other peoples of Silval culture. Such is the view, from first-hand study in the field, of Koch-Grünberg, as regards the Schirianá, Waika and Makú,³³ although it is possible that what he took for definite recent historical tradition may have been legendary tribal lore. Some of these people too seem to differ somewhat somatologically from the surrounding peoples of Silval culture.³⁴ Certain cultural correspondences, too, such, for instance, as the extremely long bows found among the Sirionó as among many of the Brazilian highland Marginals, appear significant, and so far as they go, suggest Marginal tarriance with later Silval cultural intrusion. But our information on most of these internally marginal groups is at present woefully fragmentary. We may say in passing that perhaps no more urgent task in South

³³ Koch-Grünberg, 1923, 3:15-16, 284, 299-300, 307, 1906 a, 878, 1906 b, 180-81, 1922, 226, 260-62, 265-66. Cf. Nordenskiöld, 1924, 233, Sirionó tribe "represents perhaps a remnant of the original population" [of northeastern Bolivia].

³⁴ Koch-Grünberg, 1906 a, 878, 1906 b, 180. The Sirionó are assumed by Eickstedt, 1934, 758, 855, so to differ, but such differences as exist may well be due to intrusions of white and Negro blood to which reference is made by Cardús, 1886, 280. Cf. Outes, 1924. Definitive conclusions on the Sirionó will have to await the completion of Allan Holmberg's field study now in progress.

American ethnology clamors for attention than that of thorough field investigation of these very simple peoples scattered here and there through the Silval belt.

(b) *Pan-American Evidence.* The foregoing South American evidence for the priority of the Marginal culture or cultures to the Silval is appreciably corroborated by the Pan-American evidence. A very considerable number of specific and diagnostic cultural elements found in South America, particularly though not exclusively among the Marginal peoples, largely disappear in Silval South America and in Middle America, and then reappear in North America, and in a number of cases even in northeastern and northern Asia.

Nordenskiöld first called attention to the phenomena and their probable significance nearly three decades ago. In his final paper on the subject published shortly before his death in 1932, he listed sixty-four such elements. Krickeberg later barred or fused some of these but added about twenty-five others. Loeb, Schmidt, and von Hornbostel called attention to certain specific correspondences in puberty rites, religion and musical style respectively. A number of striking resemblances in folk-lore have been noted by Lowie, Métraux, and others.³⁵ To the above lists the present writer can add about fifteen or twenty further items. All in all, we have before us about one hundred or more such North-South correspondences.

Of these, some,—such as family hunting territories or the use of skin garments, of crutchless paddles, of plank houses and plank boats,—should best be left out of count, as they are not specific enough, or else may well be chance convergences, or convergent functions of similar natural environment or basic *Wirtschaft* in the far North and far South of the continent. Some few of them, too,—such as scalping, the hollow rattle, sandals, the husking peg,—may quite possibly be the result of independent diffusion from horticultural cultures. But a great many of them, probably

³⁵ Nordenskiöld, 1912 a, 1931, 6-15, 74, 77-94 (cf. same, 1926, 1930, 163-65); Krickeberg, 1934; Loeb, 1931, 532-33; W. Schmidt, 1929, 1008-33; von Hornbostel, 1936 (cf. Danckert, 1937); Lowie, 1937, 194-95, 1940 a, 421-22; Métraux, 1939 (cf. Palavecino, 1940).

a good majority, cannot seemingly be accounted for on any of the foregoing grounds. Such, for instance, are: thread-tattooing; fire-making by the percussion method; sundial and inclined-stick traveling signs; the association of head-scratcher, drinking-tube, hoof rattle and ashes (charcoal) with girls' puberty rites; the remarkable grouping of games,—hockey, lacrosse, ring-and-pin, hoop-and-pole, dart-game, battledore, dart sticker, dice,—in the Brazilian highlands and particularly in the Chaco; the perhaps still more striking occurrence of a large number of very specific folk-lore motifs, especially in the Chaco.

These very numerous and quite specific phenomena appear best accounted for on the hypothesis that the marginal peoples of North and South America, or many of them, have retained much from a common cultural ancestry of archaic days prior to the rise and spread of the more advanced material arts on the continent. In other words the Marginal cultures of South America, or many of them, are more primitive than the Silval, in the sense that they in appreciable measure represent cultural tarriance with partial retention of pattern from times anterior to the development of the Silval.

Added weight accrues to this inference from the fact that a certain number of these North-South correspondences,—such as thread-tattooing and the ring-and-pin game,—are shared as well by some of the marginals of Northern Asia.³⁶ A certain amount of further support is derived from archaeology,—as for example, the consistent absence of head-deformation and sporadic absence of the dog, among earlier populations, as among modern marginals, of North or South America or both.³⁷

(2) *Somatological Evidence.* Somatological data cannot as a rule be cited as evidence in the cultural court. But the fact that so many of the peoples of the Marginal belt appear more or less closely related physically to the earliest physical type so far recorded on the South American continent, does seem to corroborate, so far as it goes, the cultural evidence for the primitivity of

³⁶ Birket-Smith, 1929, part 2, *passim*.

³⁷ On absence of head-deformation, cf.: Stewart, 1940; Nordenskiöld, 1931, 73; Imbelloni, 1934; Lovén, 1935, 488-90; Harrington, 1921, 2:386.

the Marginal culture itself. So related physically to the ancient Lagoa Santa-sambaqui type are the modern Yahgan and Alacaluf together with the Ona and Tehuelche, as also many at least of the living marginal peoples of the Brazilian highlands, and some perhaps of the other marginal peoples.³⁸

(3) *Geographical Evidence.* Geographically the externally marginal peoples are in the main in more remote areas of the continent, farthest removed from the doorways of ingress to the continent via Panama and the Antilles, and farthest removed by sheer distance as well as by natural barriers from the cultural influences of the advanced civilizations of the continent. Most of the internally marginal peoples are likewise in remoter "refuge" areas of the tropical rain forest.

4. THE QUESTION OF OLD WORLD INFLUENCE

Within the limits of a short paper like the present, which has already gone far beyond the length originally planned, it is not possible to enter into a detailed review of the evidence bearing on this supercomplicated problem. And unless the evidence pro and con is discussed in minute detail and against a pan-continental and even worldwide background, discussion of it is all but futile. The ablest treatment of it which has yet appeared is, to the present writer's best judgment, that by Nordenskiöld, to which the reader is referred for details.³⁹ Without entering into the minutiae of the controversy and merely to fill out some of the main lines of culture sequence in South America, we shall confine ourselves to the briefest statement of the conclusions which, in the view of Nordenskiöld and of most of us interested in the problem, seem to follow from such evidence as we have.

The earliest prehistoric human migrants from northeastern Asia to the American continent brought with them their heritage of Old World "palaeolithic" culture. Beyond, however, this initial heritage from Old World culture, there appears no convincing or even good probable evidence for appreciable accretions in pre-

³⁸ Hrdlička, 1912, 179, 183; Eickstedt, 1934, 756-59.

³⁹ Nordenskiöld, 1931, 16-53.

Columbian days to South American culture through the migration from the Old World either of peoples or of cultures, whether by a northern route across Bering Strait or the vicinity thereof or by a southern route across the Pacific.

Our evidence regarding an element here and there, such as the sweet potato, the calabash, or the coconut, makes plausible—though far from proven—the assumption of sporadic pre-Columbian cultural contacts between Oceania and South America.⁴⁰ But the inference that there has been notable or basic pre-Columbian Old World influence upon South American culture, as maintained by the Heliolithic and Kulturkreis schools,⁴¹ seems to rest on extremely weak positive evidence and furthermore to be in conflict at scores of crucial points with our massive ethnological and archaeological evidence. The resemblances on which these two schools mostly rest their respective cases seem far too few, too scattered, and too vague to justify conclusions of large-scale diffusion from the Old World to the New by the Oceanian or any other route. Apart from the initial “palaeolithic” (in the sense of “prehorticultural”) inheritance, apart from a possible stray pre-Columbian accretion here and there, and apart from obvious post-Columbian influences, the culture of aboriginal South America gives every indication of being home-grown.

SUMMARY

In attempting to discover and reconstruct the broad lines of cultural sequence on the South American continent we have resorted to the stripping process, following reverse chronological order.

Since the coming of the white man, four and a half centuries ago, a large group of important elements of European provenance, and a very limited group of minor elements of Negro origin, have spread widely over the continent or parts thereof.

Since our more or less arbitrary date of about 1000 A. D. or since, in round numbers, about a millennium ago, a half-dozen

⁴⁰ Nordenskiöld, 1931, 27-30; Dixon, 1932; cf. Cook, 1910.

⁴¹ W. Schmidt, 1913; Smith, 1929. Cf. critiques in: Dixon, 1928, ch. 7 and passim; Lowie, 1937, ch. 10-11.

major cultural diffusions or drifts have occurred,—the Inca and pre-Inca within the Andean area, from the southern Andean (Araucanian) out into the Pampean and Patagonian, from the Silval (mostly Tupi) into and around the Brazilian highlands, and (Arawak-Carib) into the West-Indies,—and other minor diffusions, such as those from the Silval and Sierral into the Chaco, from the Sierral into the Silval, and a great number, not dealt with in the present paper, of more localized ones within the Sierral, Silval and Marginal respectively.

Earlier, perhaps around the beginning of the Christian era or maybe long before, came the beginnings of horticulture in the Silval or Sierral area or both, and together with associated or subsequent more advanced material arts and divergent social and religious structures and usages spread out over the western, northern and central regions of the continent, penetrating to about the limits of the arable land in the Sierral area and of the tropical and subtropical rain forests of the Silval. These cultural drifts, however, left relatively untouched the cultures of the great eastern and southern open-country belt, and seemingly, too, a number of archaic cultural islands here and there within the Silval area as represented by the internally marginal peoples still surviving there, and even within the Sierral as represented by the coastal Chango.

Still earlier, between the remote first migration or migrations of man to the continent,—perhaps ten to twenty-five thousand years ago,—and the beginnings of aboriginal American horticulture, the original "palaeolithic" culture of these earlier immigrants was carried by them over all or most of both North and South America as they deployed out over forest and open country, highlands and lowlands. Some of the very early culture, perhaps even of the earliest, survived, and has been retained down to the present. Much or most of it suffered more than a sea change, in the process of adjustment to varying new external environments and under the impulsion of internal forces.

TENTATIVE PREHISTORICAL RECONSTRUCTION

Before bringing this paper to a close, it seems worth while, at the risk of some repetition but in the interests of clarity, to give a

résumé in chronological order of what, for purposes of discussion, has been dealt with in inverse temporal order. In doing so we are venturing to fill out the picture a little by adding a few details only implicitly or incidentally touched upon in the preceding pages. Some of these details in the following attempted reconstruction of the broad lines of culture growth on the South American continent,—and in a certain sense the basic reconstruction itself,—must of necessity, in view of the many lacunae in our evidence, be tentative and provisional only. Workers in the natural sciences take for granted that it is legitimate to formulate provisional theories, if only as working hypotheses. Why may not the cultural anthropologist do the same, provided he keeps reasonably close to his evidence and proposes his reconstructions as provisional only and not as established verities? There is a *via media* between giving free rein to fancy and speculation and setting up tentative hypotheses to be tested.

The longheaded earlier peoples of the South American continent must have reached it from North America either by way of the Isthmus of Panama or across the Antilles route. How many thousand years ago this occurred there is no very definite evidence for concluding,—possibly only the four thousand which Spinden allows, perhaps some thousands of years earlier as suggested by our linguistic data, and by some of the more recent archaeological evidence for South as well as North America.⁴²

Man on his arrival in South America had in all probability a very simple culture without agriculture, weaving or pottery, without alcoholic intoxicants or tobacco, and, judging from its earlier absence from the extreme southern tip of the continent and its modern absence from a great many other peoples of the Marginal and Silval belts, quite possibly too without the dog. Fire in the early stages was more likely by the percussion method as well as by the drill. Boiling with hot stones was practised. Body painting and depilation went along with the use of the brush comb. Head deformation was lacking. The autonomous politico-economic unit was the small band, mostly composed of kin, each band with its own more or less circumscribed sovereign

⁴² Spinden, 1937; Bird, 1938; Roberts, 1940.

territory. Sibs, moieties, age-classes, marked social stratification and powerful chieftaincy were probably absent, although there is some question regarding moieties and age classes in view of the recent Gê evidence. The family was the basic social unit, polygamous or prevalently monogamous in form, with probably some strict or fairly strict monogamy in groups here and there. Esthetic culture was weakly developed; recreative, very slightly organized. Religion was most probably a combination of shamanistic, magical, animistic and theistic concepts and practices, with relatively less manism. The probable later derivation of the hollow rattle from the Silval culture and the actual absence of rattles of any kind south of the Strait of Magellan suggest that the rattle, at least the hollow rattle, was not part of the earliest magico-religious culture.

The marked dominance of weapons like the sling, club, spear, and spear-thrower over most of the Andean area to Cape Horn contrasting broadly with the dominance of the bow and arrow and unheaded club over most of the area east of the Andes, seems to point towards two great more or less independent cultural drifts in the western and eastern regions of the continent, drifts which may well date back to remote archaic times.

For some hundreds, and perhaps thousands, of years the South American continent was occupied by peoples of such simple culture as has been above outlined, a culture partly preserved in varying degrees until the present or until very recent times here and there in the Sierral and Silval regions and over most of our open-country belt. During, however, these centuries or millennia countless major and minor local and tribal cultural divergences developed within this pre-horticultural pattern.

At the latest during the first millennium B.C. and perhaps much earlier, came the beginnings of horticulture, together with more or less sedentary village life, alcoholic intoxicants and tobacco, weaving, pottery, and other more advanced material arts. Whether horticulture first reached South America via the Isthmus from Middle America, or originated independently south of the Isthmus, is an open question, although some of our recent evidence seems to be a little more favorable to the theory of South

American origin. Middle America's claim to be the birthplace of maize cultivation is being sharply challenged. Then, too, at least some weight is given to Peru's claim to priority from the marked variety of plants, about seventy in all, cultivated there in pre-Discovery times. Or else, the domestication of plants on the southern continent may have begun as root-tuber horticulture, with perhaps white potatoes in the central Sierral region, or with manioc somewhere in the Silval.

In any case, waiving as still *sub judice* the question of the exact locality or localities of its origin, horticulture in South America seems to have later diffused in two main streams: one, carrying chiefly maize, beans and white potatoes until it covered the western belt from Colombia to Chiloé; a second one, carrying chiefly manioc and beans until it extended over the great rain forests of the Orinoco-Amazonian region and flooded out over the Antilles.

At later dates, mostly after our more or less arbitrary one of 1000 A. D. and in many sections even after the coming of the white man, this basically manioc culture spread around and deeply penetrated into the eastern Brazilian and Matto Grosso highlands, diffused into parts of the Chaco, and swept over many of the savannas within and adjacent to the tropical rain forests,—areas until then occupied by non-horticultural marginal peoples.

In general, it looks as if the typical larger groups of the Silval belt,—especially the Carib, Arawak and Tupi,—pretty consistently kept in their spread to the tropical and subtropical rain forests, penetrated to the limit thereof, and stopped short at the savannas and grasslands. They stayed in the deep forests and avoided the open country. Even the Tupi-speaking Chiriguano on their western trek out of the Paraguay country across the Chaco, settled, not in the open Chaco region, but in the forested foothills and lowlands bordering thereon.

For the beginnings of the high civilizations of the Sierral region, archaeology has so far yielded us no well established dates, nor has it determined definitively how much of this more advanced culture may have had its origin north of the Isthmus. Such facts as we have can be fitted comfortably within the assumption that

Sierral civilization, with its advanced weaving, pottery, metallurgy, megalithic architecture and political institutions,—to mention only a few of its outstanding characteristics,—does not date in its origin or origins beyond the beginning of the Christian era. At least there is no specific evidence for an earlier date.

Assuming, albeit with reserves, an origin or origins of Sierral civilization around the first centuries of the Christian era, this pre-Inca higher culture developed and flourished for about a millennium.

Then, somewhere between about 1100 A. D. and 1300 A. D. came the rise of Inca imperialism which, during the generations immediately preceding the coming of the Spaniard, carried its truculent conquests as well as its characteristic culture from around Cuzco to the north as far as northern Ecuador, to the south as far as the Rio Maule in middle Chile, and out into the Diaguita country in northwestern Argentine.

Apart from this main area of diffusion of earlier Andean and later Inca civilization, Sierral culture in diluted form spread to the Araucanians of middle and southern Chile, partly in pre-Columbian times, partly in post-Columbian. In post-Discovery days, this diluted Andean culture was carried by the Araucanians far to the east of the southern Andes,—by the middle of the seventeenth century, through actual Araucanian invasion, to the peoples of the Pampa, and a little later, between 1670 and 1741, through Araucanian contacts, to the Tehuelche of Patagonia as far south as the Strait of Magellan.

Such in brief appear to be the broad lines of aboriginal South American cultural evolution, so far as our available somatological, linguistic, ethnological, archaeological and historical evidence reveals them. Some of this reconstruction is derived from dated historical documents. Much of it rests on evidence that yields temporal inferences of from reasonable to high probability. But on many points our data are pathetically meager, and the provisional reconstruction we have ventured to propose will in all likelihood have to be revised not only in many of its details but also in some of its major lines long before the several kindred disciplines concerned shall have gleaned their last fact and spoken their last word.

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